AMENDMENTS TO THE CLAIMS

1-15. (Canceled)

16. (Currently Amended) A DNA synthesis reaction composition comprising:

1) a DNA polymerase;

2) water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, ~~rhamnam sulfate, heparan sulfate,~~ hyaluronic acid, alginic acid, polyglutamic acids, polyacrylic acids and polystyrene sulfates; and

3) components necessary for DNA synthesis using DNA polymerase.

17. (Canceled)

18. (Currently Amended) A DNA synthesis reaction composition comprising:

1) two or more kinds of DNA polymerases;

2) water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, dextran sulfate, carrageenan, heparin, ~~rhamnam sulfate,~~ dermatan sulfate (chondroitin sulfate B), ~~sulfate,~~

hyaluronic acid, alginic acid, polyglutamic acids, polyacrylic acids, polyvinyl sulfates and polystyrene sulfates; and

3) components necessary for DNA synthesis using DNA polymerase,

wherein the two or more kinds of DNA polymerases comprise a DNA polymerase having 3′→5′ exonuclease activity, and a DNA polymerase having no 3′→5′ exonuclease activity.

19-30. (Canceled).

31. (Currently Amended) A kit for use in *in vitro* DNA synthesis, wherein the kit comprises:

1) a DNA polymerase;

2) a reaction buffer comprising water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, ~~rhamnam sulfate,~~ heparan sulfate, hyaluronic acid, alginic acid, polyglutamic acids, polyacrylic acids and polystyrene sulfates; and

3) dNTP, wherein N is a mixture of adenine, thymine, guanine and cytosine.

32-33. (Canceled)

34. (Previously Presented) The kit according to claim 31, wherein said DNA polymerase is a thermostable DNA polymerase.

35. (Canceled)

36. (Currently Amended) A kit for use in *in vitro* DNA synthesis, wherein the kit comprises:

1) two or more kinds of DNA polymerases, wherein the two or more kinds of DNA polymerases comprise a DNA polymerase having 3′→5′ exonuclease activity, and a DNA polymerase having no 3′→5′ exonuclease activity

2) a reaction buffer comprising water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, dextran sulfate, carrageenan, heparin, ~~rhamnam sulfate,~~ dermatan sulfate (chondroitin sulfate B), heparan sulfate, hyaluronic acid, alginic acid, polyglutamic acids, polyacrylic acids, polyvinyl sulfates and polystyrene sulfates; and

3) dNTP, wherein N is a mixture of adenine, thymine, guanine and cytosine.

37. (Canceled)

38. (Previously Presented) The kit according to claim 36, wherein said DNA polymerase is a thermostable DNA polymerase.

39. (Currently Amended) A DNA synthesis reaction composition comprising:

(a) DNA polymerase having 3′ → 5′ exonuclease activity;

(b) water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of ~~dextran sulfate, carrageenan, heparin,~~ dermatan sulfate (chondroitin sulfate B)~~, pectin~~ and polyvinyl sulfates, and wherein said water-soluble acidic macromolecular substances or water-soluble salts thereof enhance DNA synthesis reactions; and

(c) components necessary for DNA synthesis using DNA polymerase.

40. (Previously Presented) The DNA synthesis reaction composition according to claim 16, wherein said water-soluble acid macromolecular substances or water-soluble salts thereof are present in the composition at about 0.1 ng to about 5 μg, and wherein the composition is about 50 μl in total volume.

41. (Previously Presented) The DNA synthesis reaction composition according to claim 16, wherein said DNA polymerase is selected from the group consisting of: pol I-type DNA polymerase, *E. coli* DNA polymerase I, Klenow fragment, *Thermococcus aquaticus*-derived DNA polymerase, α-type DNA polymerase, α-type *Pyrococcus furiosus*-derived DNA polymerase, *Thermococcus litralis*-derived DNA polymerase and *Pyrococcus sp.*-derived DNA polymerase.

42. (Previously Presented) The DNA synthesis reaction composition according to claim 16, wherein said DNA polymerase is selected from the group consisting of: *E. coli* DNA polymerase I, Klenow fragment, Taq DNA polymerase, VENT DNA polymerase, Pyrobest DNA polymerase, Pfu DNA polymerase I, Pfu DNA polymerase II, Ex-Taq DNA polymerase, KOD dash DNA polymerase, DEEP VENT DNA polymerase, KOD DNA polymerase and LA-Taq DNA polymerase.

43. (Currently Amended) A kit for use in *in vitro* DNA synthesis, wherein the kit comprises:

(a) a DNA polymerase having 3′ → 5′ exonuclease activity;

(b) a reaction buffer comprising water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of ~~dextran sulfate, carrageenan, heparin,~~ dermatan sulfate (chondroitin sulfate B)~~, pectin~~ and polyvinyl sulfates, and wherein said water-soluble acidic macromolecular substances or water-soluble salts thereof enhance DNA synthesis reactions; and

(c) dNTP, wherein N is a mixture of adenine, thymine, guanine and cytosine.

44. (Previously Presented) The kit according to claim 43, wherein said DNA polymerase is a thermostable DNA polymerase.

45. (Previously Presented) The DNA synthesis reaction composition according to claim 18, wherein said two or more kinds of DNA polymerases are selected from the group consisting of: pol I-type DNA polymerase, *E. coli* DNA polymerase I, Klenow fragment, *Thermococcus aquaticus*-derived DNA polymerase, α-type DNA polymerase, α-type *Pyrococcus furiosus*-derived DNA polymerase, *Thermococcus litralis*-derived DNA polymerase and *Pyrococcus sp.*-derived DNA polymerase.